3.2 Air Quality

This section provides an overview of the existing air quality at the project site and surrounding region, the regulatory framework, an analysis of potential impacts to air quality that would result from implementation of the project, and identification of mitigation measures.

3.2.1 Setting

Regional Setting

The project is located in western Riverside County within the South Coast Air Basin (Basin). The Basin is bounded by the Pacific Ocean to the west and the San Gabriel, San Bernardino, and San Jacinto Mountains to the north and east. The Basin includes all of Orange County and the non-desert portions of Los Angeles, Riverside, and San Bernardino counties.

Climate

In general, Southern California has a warm, dry Mediterranean climate, hot in the summer, mild in the winter. Temperatures are cooler near the coast and hotter away from the coast in the inland areas. Most of the precipitation comes as rain during the winter months, although rain showers are common during the summer in the higher desert areas. In the project area the average annual precipitation is about 10 inches per year and temperatures reach 90 degrees Fahrenheit an average of 100 days of the year. August daily highs average 95 degrees while daily lows average 64 degrees Fahrenheit. January offers average daily highs of 68 degrees and average daily lows of 43 degrees Fahrenheit. The predominant wind directions are either out of the northwest or southeast. Gusts greater than 15 miles per hour occur infrequently less than two percent of the time.[1]

Existing Air Quality in the Study Area Vicinity

The South Coast Air Quality Management District (SCAQMD) maintains monitoring stations within Riverside County that monitor air quality and compliance with applicable ambient standards. The closest stations to the project site are Perris (237 ½ N. D St.) and Riverside Magnolia (7002 Magnolia Ave.) monitoring stations. The following pollutants are monitored at this station: ozone (O_3), particulate matter less than 10 and less than 2.5 microns (PM10 and PM2.5). The most recent published data for the monitoring stations are presented in **Table 3.2-1**. In addition, air pollutants of interest to the regulatory agencies for their potential adverse impacts on sensitive receptors are described below.

Criteria Air Pollutants

Ozone

Short-term exposure to ozone can irritate the eyes and cause construction of the airways. Besides causing shortness of breath, ozone can aggravate existing respiratory diseases such as asthma, bronchitis, and emphysema.

[1] South Coast Air Quality Management District, Perris Monitoring Station, 1991-1999

TABLE 3.2-1
AIR QUALITY DATA SUMMARY (2006 - 2008)

Pollutant	Monitoring Data by Year			
	Standard[a]	2006	2007	2008
Ozone – Perris				
Highest 1 Hour Average (ppm)[b]	0.09	**0.169**	**0.138**	**0.142**
Days over State Standard		77	66	65
Highest 8 Hour Average (ppm)[b]	0.075	**0.122**	**0.1116**	**0.114**
Days over National Standard		83	73	77
Particulate Matter (PM10) – Perris				
Highest 24 Hour Average ($\mu g/m^3$)[b]	50	**119**	**1155**	**87**
Est. Days over State Standard[c]		NA	NA	NA
Highest 24 Hour Average ($\mu g/m^3$)[b] – National Measurement	150	125	1212	85
Est. Days over National Standard[c]		0	NA	NA
State Annual Average ($\mu g/m^3$)[b]	20	**NA**	**NA**	**NA**
Particulate Matter (PM2.5) – Riverside Magnolia				
Highest 24 Hour Average ($\mu g/m^3$)[b]	35	**55.3**	**68.5**	**42.9**
Days over National 2006 Standard		31.3	NA	NA
State Annual Average ($\mu g/m^3$)[b]	12	NA	NA	NA

NOTES: Values in **bold** are in excess of at least one applicable standard. NA = Not Available.

[a] Generally, state standards and national standards are not to be exceeded more than once per year.
[b] ppm = parts per million; µg/m3 = micrograms per cubic meter.
[c] PM10 is not measured every day of the year. Number of estimated days over the standard is based on 365 days per year.

SOURCE: California Air Resources Board, 2009. *Summaries of Air Quality Data*, 2006, 2007, 2008; http://www.arb.ca.gov/adam/cgi-bin/db2www/polltrendsb.d2w/start
California Air Resources Board, 2008a. *Ambient Air Quality Standard*s, last updated November 17, 2008.

Ozone, the main component of photochemical smog, is primarily a summer and fall pollution problem. Ozone is not emitted directly into the air but is formed through a complex series of chemical reactions involving other compounds that are directly emitted. These directly emitted pollutants (also known as ozone precursors) include reactive organic gases (ROG) and nitrogen oxides (NOx). The time period required for ozone formation allows the reacting compounds to spread over a large area, producing a regional pollution problem. Ozone problems are the cumulative result of regional development patterns rather than the result of a few significant emission sources.

Once formed, ozone remains in the atmosphere for one or two days. Ozone is then eliminated through reaction with chemicals on the leaves of plants, attachment to water droplets as they fall

to earth “rainout” and absorption by water molecules in clouds that later fall to earth with rain “washout”.

Carbon Monoxide

Ambient carbon monoxide concentrations normally are considered a local effect and typically correspond closely to the spatial and temporal distributions of vehicular traffic. Wind speed and atmospheric mixing also influence carbon monoxide concentrations. Under inversion conditions, carbon monoxide concentrations may be distributed more uniformly over an area that may extend some distance from vehicular sources. Carbon monoxide levels can increase around busy intersections immediately with the onset of high traffic and disperse immediately to background levels, which are typically 1 to 2 ppm, when traffic levels decrease.

When inhaled at high concentrations, carbon monoxide combines with hemoglobin in the blood and reduces the oxygen-carrying capacity of the blood. This results in reduced oxygen reaching the brain, heart, and other body tissues. This condition is especially critical for people with cardiovascular diseases, chronic lung disease, or anemia, as well as for fetuses.

Carbon monoxide concentrations have declined dramatically in California due to existing controls and programs. Carbon monoxide concentrations are expected to continue declining due to the ongoing retirement of older, more polluting vehicles from the mix of vehicles on the road network.

Respirable Particulate Matter (PM10 and PM2.5)

PM10 and PM2.5 consist of particulate matter that is 10 microns or less in diameter and 2.5 microns or less in diameter, respectively. (A micron is one-millionth of a meter). PM10 and PM2.5 represent fractions of particulate matter that can be inhaled into the air passages and the lungs and can cause adverse health effects. Acute and chronic health effects associated with high particulate levels include the aggravation of chronic respiratory diseases, heart and lung disease, and coughing, bronchitis and respiratory illnesses in children. Recent mortality studies have shown an association between morbidity and mortality and daily concentrations of particulate matter in the air. Particulates can also damage materials and reduce visibility. One common source of PM2.5 is diesel particulate emissions.

Traffic generates particulate matter and PM10 emissions through entrainment of dust and dirt particles that settle onto roadways and parking lots. PM10 also is emitted by burning wood in residential wood stoves and fireplaces and open agricultural burning. PM10 can remain in the atmosphere for up to seven days before gravitational settling, rainout and washout remove it.

Nitrogen Dioxide

NO_2 is a reddish brown gas that is a by-product of combustion processes. Automobiles and industrial operations are the main sources of NO_2. Aside from its contribution to ozone formation, nitrogen dioxide can increase the risk of acute and chronic respiratory disease and reduce visibility. NO_2 may be visible as a coloring component of a brown cloud on high pollution days,

especially in conjunction with high ozone levels. The cloud can stay for extended periods of time until removed by area ventilation or precipitation.

Toxic Air Contaminants (TACs)

Non-criteria air pollutants or TACs are airborne substances that are capable of causing short-term (acute) and/or long-term (chronic or carcinogenic, i.e., cancer causing) adverse human health effects (i.e., injury or illness). TACs include both organic and inorganic chemical substances. They may be emitted from a variety of common sources including gasoline stations, automobiles, dry cleaners, industrial operations, and painting operations. The current California list of TACs includes approximately 200 compounds, including particulate emissions from diesel-fueled engines and asbestos.

Asbestos is a type of fibrous mineral used in construction materials including cement pipe. Over time, exposure to friable asbestos can lead to health problems including asbestosis, lung cancer and mesothelioma, a form of lung cancer uniquely attributed to long-term exposure to airborne asbestos. Exposure to asbestos is hazardous via inhalation.

Diesel particulate matter (DPM) is the most complex of diesel emissions. Diesel particulates, as defined by most emission standards, are sampled from diluted and cooled exhaust gases. This definition includes both solids and liquid material that condenses during the dilution process. The basic fractions of DPM are elemental carbon, heavy hydrocarbons derived from the fuel and lubricating oil and hydrated sulfuric acid derived from the fuel sulfur. DPM contains a large portion of the polycyclic aromatic hydrocarbons (PAH) found in diesel exhaust. Diesel particulates include small nuclei mode particles of diameters below 0.04μm and their agglomerates of diameters up to 1μm. Ambient exposures to diesel particulates in California are significant fractions of total TAC levels in the State.

Odorous Emissions

Though offensive odors from stationary sources rarely cause any physical harm, they still remain unpleasant and can lead to public distress generating citizen complaints to local governments. The occurrence and severity of odor impacts depend on the nature, frequency, and intensity of the source; wind speed and direction; and the sensitivity of receptors.

Greenhouse Gases and Global Climate Change

Gases that trap heat in the atmosphere are called greenhouse gases. The major concern is that increases in greenhouse gases are causing Global Climate Change. Global Climate Change is a change in the average weather on earth that can be measured by wind patterns, storms, precipitation and temperature.

Greenhouse gases allow sunlight to enter the atmosphere, but trap a portion of the outward-bound infrared radiation and warm up the air. The process is similar to the effect greenhouses have in raising the internal temperature, hence the name greenhouse gases. Both natural processes and human activities emit greenhouse gases. The accumulation of greenhouse gases in the atmosphere regulates the earth's temperature; however, emissions from human activities such as electricity

production and motor vehicles have elevated the concentration of greenhouse gases in the atmosphere. This accumulation of greenhouse gases has contributed to an increase in the temperature of the earth's atmosphere and contributed to Global Climate Change. The principal greenhouse gases are carbon dioxide (CO_2), methane (CH_4), nitrous oxide (N_2O), sulfur hexafluoride (SF6), perfluorocarbons (PFCs), hydrofluorocarbons (HFCs), and water vapor (H_2O). Carbon dioxide is the reference gas for climate change because it gets the most attention and is considered the most important greenhouse gas. To account for the warming potential of greenhouse gases, greenhouse gas emissions are often quantified and reported as CO_2 equivalents (CO_2e).

3.2.2 Regulatory Framework

Federal

The Federal Clean Air Act (FCAA) requires the U.S. Environmental Protection Agency (USEPA) to identify National Ambient Air Quality Standards (NAAQS or national standards) to protect public health and welfare. National standards have been established for ozone, carbon monoxide, nitrogen dioxide, sulfur dioxide, PM10, PM2.5, and lead. **Table 3.2-2** shows current national and state ambient air quality standards and provides a brief discussion of the related health effects and principal sources for each pollutant.

Pursuant to the 1990 Federal Clean Air Act Amendments (FCAAA), the USEPA classifies air basins (or portions thereof) as "attainment" or "nonattainment" for each criteria air pollutants, based on whether or not the NAAQS had been achieved. **Table 3.2-3** shows the current attainment status of the project area.

The FCAA requires each state to prepare an air quality control plan referred to as the State Implementation Plan (SIP). The FCAAA added requirements for states containing areas that violate the NAAQS to revise their SIPs to incorporate additional control measures to reduce air pollution. The SIP is a living document that is periodically modified to reflect the latest emissions inventories, planning documents, and rules and regulations of air basins as reported by the agencies with jurisdiction over them. The USEPA has responsibility to review all state SIPs to determine if they conform to the mandates of the FCAAA and will achieve air quality goals when implemented. If the USEPA determines a SIP to be inadequate, it may prepare a Federal Implementation Plan (FIP) for the no attainment area and may impose additional control measures. Failure to submit an approvable SIP or to implement the plan within mandated timeframes can result in sanctions being applied to transportation funding and stationary air pollution sources in the air basin. In reference to California in this issue, the SIP has been considered adequate.

TABLE 3.2-2
STATE AND NATIONAL CRITERIA AIR POLLUTANT STANDARDS, EFFECTS, AND SOURCES

Pollutant	Averaging Time	State Standard	National Standard	Pollutant Health and Atmospheric Effects	Major Pollutant Sources
Ozone	1 hour	0.09 ppm	---	High concentrations can directly affect lungs, causing irritation. Long-term exposure may cause damage to lung tissue.	Formed when ROG and NO_X react in the presence of sunlight. Major sources include on-road motor vehicles, solvent evaporation, and commercial / industrial mobile equipment.
	8 hours	0.07 ppm[1]	0.075 ppm		
Carbon Monoxide	1 hour	20 ppm	35 ppm	Classified as a chemical asphyxiant, carbon monoxide interferes with the transfer of fresh oxygen to the blood and deprives sensitive tissues of oxygen.	Internal combustion engines, primarily gasoline-powered motor vehicles.
	8 hours	9.0 ppm	9 ppm		
Nitrogen Dioxide	1 hour	0.18 ppm	---	Irritating to eyes and respiratory tract. Colors atmosphere reddish-brown.	Motor vehicles, petroleum refining operations, industrial sources, aircraft, ships, and railroads.
	Annual Avg.	---	0.030 ppm		
Sulfur Dioxide	1 hour	0.25 ppm	---	Irritates upper respiratory tract; injurious to lung tissue. Can yellow the leaves of plants, destructive to marble, iron, and steel. Limits visibility and reduces sunlight.	Fuel combustion, chemical plants, sulfur recovery plants, and metal processing.
	3 hours	---	0.5 ppm		
	24 hours	0.04 ppm	0.14 ppm		
	Annual Avg.	---	0.03 ppm		
Respirable Particulate Matter (PM-10)	24 hours	50 $\mu g/m^3$	150 $\mu g/m^3$	May irritate eyes and respiratory tract, decreases in lung capacity, cancer and increased mortality. Produces haze and limits visibility.	Dust and fume-producing industrial and agricultural operations, combustion, atmospheric photochemical reactions, and natural activities (e.g., wind-raised dust and ocean sprays).
	Annual Avg.	20 $\mu g/m^3$	---		
Fine Particulate Matter (PM-2.5)	24 hours	---	35 $\mu g/m^3$	Increases respiratory disease, lung damage, cancer, and premature death. Reduces visibility and results in surface soiling.	Fuel combustion in motor vehicles, equipment, and industrial sources; residential and agricultural burning; Also, formed from photochemical reactions of other pollutants, including NO_X, sulfur oxides, and organics.
	Annual Avg.	12 $\mu g/m^3$	15 $\mu g/m^3$		
Lead	Monthly Ave.	1.5 $\mu g/m^3$	---	Disturbs gastrointestinal system, and causes anemia, kidney disease, and neuromuscular and neurological dysfunction.	Present source: lead smelters, battery manufacturing & recycling facilities. Past source: combustion of leaded gasoline.
	Quarterly	---	1.5 $\mu g/m^3$		
Hydrogen Sulfide	1 hour	0.03 ppm	No National Standard	Geothermal Power Plants, Petroleum Production and refining	Nuisance odor (rotten egg smell), headache and breathing difficulties (higher concentrations)
Sulfates	24 hour	25 $\mu g/m^3$	No National Standard	Produced by the reaction in the air of SO2.	Breathing difficulties, aggravates asthma, reduced visibility
Visibility Reducing Particles	8 hour	Extinction of 0.23/km; visibility of 10 miles or more	No National Standard	Reduces visibility, reduced airport safety, lower real estate value, discourages tourism.	See PM2.5.

NOTE: ppm = parts per million; $\mu g/m^3$ = micrograms per cubic meter.

[1] This concentration was approved by the Air Resources Board on April 28, 2005 and became effective May 17, 2006.

SOURCE: California Air Resources Board, 2008a. *Ambient Air Quality Standards,* available at http://www.arb.ca.gov/research/aaqs/caaqs/caaqs.htm Standards last updated November 17, 2008.

TABLE 3.2-3
WESTERN RIVERSIDE COUNTY ATTAINMENT STATUS

	Designation/Classification	
Pollutant	**Federal Standards**	**State Standards**
Ozone – one hour	No Federal Standard[a]	Nonattainment
Ozone – eight hour	Serious Nonattainment	Unclassified
PM10	Serious Nonattainment	Nonattainment
PM2.5	Nonattainment	Nonattainment
CO	Attainment	Attainment
Nitrogen Dioxide	Unclassified/Attainment	Attainment
Sulfur Dioxide	Attainment	Attainment
Lead	No Designation	Attainment
Hydrogen Sulfide	No Federal Standard	Unclassified
Sulfates	No Federal Standard	Attainment
Visibility-Reducing Particles	No Federal Standard	Unclassified

[a] Federal One Hour Ozone National Ambient Air Quality Standard was revoked on June 15, 2005

SOURCE: California Air Resources Board, 2007a. *Area Designation Maps,* http://www.arb.ca.gov/desig/adm/adm.htm, page updated June 28, 2007.
8 Hour Ozone: http://www.epa.gov/air/oaqps/greenbk/gncs.html#CALIFORNIA
PM10: http://www.epa.gov/air/oaqps/greenbk/pncs.html#CALIFORNIA

State

The California Air Resources Board (CARB) manages air quality, regulates mobile emissions sources, and oversees the activities of county Air Pollution Control Districts and regional Air Quality Management Districts. CARB establishes state ambient air quality standards and vehicle emissions standards.

California has adopted ambient standards that are more stringent than the federal standards for the criteria air pollutants. These are shown in Table 3.2-2. Under the California Clean Air Act (CCAA) patterned after the FCAA, areas have been designated as attainment or no attainment with respect to the state standards. Table 3.2-3 summarizes the attainment status with California standards in the project area.

California State law defines TACs as air pollutants having carcinogenic effects. A total of 243 substances have been designated as TACs under California law; they include the 189 (federal) Hazardous Air Pollutants (HAPs) adopted in accordance with AB 2728. The Air Toxics "Hot Spots" Information and Assessment Act of 1987 (AB 2588) seeks to identify and evaluate risk from air toxics sources but AB 2588 does not regulate air toxics emissions. Toxic air contaminant emissions from individual facilities are quantified and prioritized. Depending on the risk levels, emitting facilities are required to implement varying levels of risk reduction measures. The project does not include developing facilities that may be categorized as "High-priority," which are required to perform a health risk assessment.

In August of 1998, CARB identified particulate emissions from diesel-fueled engines (DPM) as TACs. CARB developed the *Risk Reduction Plan to Reduce Particulate Matter Emissions from*

Diesel-Fueled Engines and Vehicles (CARB, 2000). The document represents a proposal to reduce diesel particulate emissions, with the goal to reduce emissions and the associated health risk by 75 percent in 2010 and by 85 percent in 2020. The program aims to require the use of state-of-the-art catalyzed diesel particulate filters and ultra low sulfur diesel fuel on diesel-fueled engines.

CARB recently published the *Air Quality and Land Use Handbook: A Community Health Perspective* (CARB, 2005). The primary goal in developing the handbook was to provide information that would help keep California's children and other vulnerable populations out of harm's way with respect to nearby sources of air pollution. The handbook highlights recent studies that have shown that public exposure to air pollution can be substantially elevated near freeways and certain other facilities. However, the health risk is greatly reduced with distance. For that reason, CARB provided some general recommendations aimed at keeping appropriate distances between sources of air pollution and sensitive land uses, such as residences.

The USEPA regulates asbestos exposure, handling, and disposal through the National Emission Standards for Hazardous Air Pollutants (NESHAP, 40 CFR Parts 61 and 63) programs. Asbestos handling regulations promulgated from the Toxic Substances Control Act are included in 40 CFR Part 763. The US Occupational Safety and Health Administration (OSHA) regulates the use of asbestos in the work environment (CFR 29 part 1910). In both general industry and construction, OSHA regulates workplace exposure at 0.2 fibers per cubic centimeter of air (0.2 f/cc), averaged over an eight-hour work shift. The excursion or short-term limit is one fiber per cubic centimeter of air (1 f/cc) averaged over a sampling period of 30 minutes.

Greenhouse Gases

In 2005, in recognition of California's vulnerability to the effects of climate change, Governor Schwarzenegger established Executive Order S-3-05, which sets forth a series of target dates by which statewide emission of greenhouse gas would be progressively reduced, as follows:

- By 2010, reduce greenhouse gas emissions to 2000 levels;
- By 2020, reduce greenhouse gas emissions to 1990 levels; and
- By 2050, reduce greenhouse gas emissions to 80 percent below 1990 levels.

Assembly Bill 32 (AB 32)

In 2006, California passed the California Global Warming Solutions Act of 2006 (Assembly Bill No. 32; California Health and Safety Code Division 25.5, Sections 38500, et seq., or AB 32), which requires the CARB to design and implement emission limits, regulations, and other measures, such that statewide greenhouse gas emissions will be reduced to 1990 levels by 2020.

In December 2007, CARB approved the 2020 emission limit of 427 million metric tons of CO_2 equivalents of greenhouse gases. The 2020 target of 427 million metric tons of CO_2e requires the reduction of 169 million metric tons of CO_2e, or approximately 30 percent, from the state's projected 2020 emissions of 596 million metric tons of CO_2e (business-as-usual).

Also in December 2007, CARB adopted mandatory reporting and verification regulations pursuant to AB 32. The regulations became effective January 1, 2009, with the first reports completed by June 1, 2009. The mandatory reporting regulations require reporting for certain

types of facilities that make up the bulk of the stationary source emissions in California. The regulation, in general, identifies major facilities as those that generate more than 25,000 metric tons/year of CO_2e. Cement plants, oil refineries, electric-generating facilities/providers, cogeneration facilities, and hydrogen plants and other stationary combustion sources that emit more than 25,000 metric tons/year CO_2e, make up 94 percent of the point source CO_2e emissions in California.

By adopting Assembly Bill (AB) 32 (2006) and Senate Bill (SB) 97 (2007); the State of California has established GHG reduction targets and has determined that GHG emissions, as they relate to global climate change, are a source of adverse environmental impacts in California that should be addressed under CEQA. AB 32 establishes regulatory, reporting, and market mechanisms to achieve quantifiable reductions in GHG emissions and establishes a cap on statewide GHG emissions. In October 2008, ARB published its *Climate Change Scoping Plan*, which is the state's plan to achieve GHG reductions in California required by AB 32 (CARB 2008b). The scoping plan was approved by ARB on December 11, 2008.

The *Climate Change Scoping Plan* includes recommended measures that were developed to reduce greenhouse gas emissions from key sources and activities while improving public health, promoting a cleaner environment, preserving our natural resources, and ensuring that the impacts of the reductions are equitable and do not disproportionately impact low-income and minority communities. These measures, shown in **Table 3.2-4** by sector, also put the state on a path to meet the long-term 2050 goal of reducing California's greenhouse gas emissions to 80 percent below 1990 levels. The measures in the *Scoping Plan* approved by the Board will be developed over the next two years and will be in place by 2012.

TABLE 3.2-4
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Million Metric Tons per year of CO_2e)
Transportation		
T-1	Pavley I and II – Light Duty Vehicle Greenhouse Gas Standards	31.7
T-2	Low Carbon Fuel Standard (Discrete Early Action)	15
T-3[a]	Regional Transportation-Related Greenhouse Gas Targets	5
T-4	Vehicle Efficiency Measures	4.5
T-5	Ship Electrification at Ports (Discrete Early Action)	0.2
T-6	Goods Movement Efficiency Measures. • Ship Electrification at Ports • System-Wide Efficiency Improvements	3.5
T-7	Heavy-Duty Vehicle Greenhouse Gas Emission Reduction Measure – Aerodynamic Efficiency (Discrete Early Action)	0.93
T-8	Medium- and Heavy-Duty Vehicle Hybridization	0.5
T-9	High Speed Rail	1

TABLE 3.2-4 (continued)
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Million Metric Tons per year of CO_2e)
Electricity and Natural Gas		
E-1	Energy Efficiency (32,000 GWh of Reduced Demand) • Increased Utility Energy Efficiency Programs • More Stringent Building & Appliance Standards Additional Efficiency and Conservation Programs	15.2
E-2	Increase Combined Heat and Power Use by 30,000 GWh (Net reductions include avoided transmission line loss)	6.7
E-3	Renewables Portfolio Standard (33% by 2020)	21.3
E-4	Million Solar Roofs (including California Solar Initiative, New Solar Homes Partnership and solar programs of publicly owned utilities) • Target of 3000 MW Total Installation by 2020	2.1
CR-1	Energy Efficiency (800 Million Therms Reduced Consumptions) • Utility Energy Efficiency Programs • Building and Appliance Standards • Additional Efficiency and Conservation Programs	4.3
CR-2	Solar Water Heating (AB 1470 goal)	0.1
Green Buildings		
GB-1	Green Buildings	26
Water		
W-1	Water Use Efficiency	1.4[b]
W-2	Water Recycling	0.3[b]
W-3	Water System Energy Efficiency	2.0[b]
W-4	Reuse Urban Runoff	0.2[b]
W-5	Increase Renewable Energy Production	0.9[b]
W-6	Public Goods Charge (Water)	TBD[b]
Industry		
I-1	Energy Efficiency and Co-Benefits Audits for Large Industrial Sources	TBD
I-2	Oil and Gas Extraction GHG Emission Reduction	0.2
I-3	GHG Leak Reduction from Oil and Gas Transmission	0.9
I-4	Refinery Flare Recovery Process Improvements	0.3
I-5	Removal of Methane Exemption from Existing Refinery Regulations	0.01
Recycling and Water Management		
RW-1	Landfill Methane Control (Discrete Early Action)	1
RW-2	Additional Reductions in Landfill Methane • Increase the Efficiency of Landfill Methane Capture	TBD[b]
RW-3	High Recycling/Zero Water • Commercial Recycling • Increase Production and Markets for Compost • Anaerobic Digestion • Extended Producer Responsibility • Environmentally Preferable Purchasing	9[b]
Forests		
F-1	Sustainable Forest Target	5

TABLE 3.2-4 (continued)
LIST OF RECOMMENDED ACTIONS BY SECTOR

Measure No.	Measure Description	GHG Reductions (Million Metric Tons per year of CO_2e)
High Global Warming Potential (GWP) Gases		
H-1	Motor Vehicle Air Conditioning Systems: Reduction of Refrigerant Emissions from Non-Professional Servicing (Discrete Early Action)	0.26
H-2	SF_6 Limits in Non-Utility and Non-Semiconductor Applications (Discrete Early Action)	0.3
H-3	Reduction of Perfuorocarbons in Semiconductor Manufacturing (Discrete Early Action)	0.15
H-4	Limit High GWP Use in Consumer Products Discrete Early Action (Adopted June 2008)	0.25
H-5	High GWP Reductions from Mobile Sources • Low GWP Refrigerants for New Motor Vehicle Air Conditioning Systems • Air Conditioner Refrigerant Leak Test During Vehicle Smog Check • Refrigerant Recovery from Decommissioned Refrigerated Shipping Containers • Enforcement of Federal Ban on Refrigerant Release during Servicing or Dismantling of Motor Vehicle Air Conditioning Systems	3.3
H-6	High GWP Reductions from Stationary Sources • High GWP Stationary Equipment Refrigerant Management Program: o Refrigerant Tracking/Reporting/Repair Deposit Program o Specifications for Commercial and Industrial Refrigeration Systems • Foam Recovery and Destruction Program • SF_6 Leak Reduction and Recycling in Electrical Applications • Alternative Suppressants in Fire Protection Systems • Residential Refrigeration Early Retirement Program	10.9
H-7	Mitigation Fee on High GWP Gases	5
Agriculture		
A-1	Methane Capture at Large Dairies	1.0[b]

[a] This is not the SB 375 regional target. CARB will establish regional targets for each MPO region following the input of the regional targets advisory committee and a consultation process with MPOs and other stakeholders per SB 375
[b] GHG emission reduction estimates are not included in calculating the total reductions needed to meet the 2020 target

SOURCE: CARB, 2008c.

In addition to the scoping plan, ARB has also released the *Preliminary Draft Staff Proposal: Recommended Approaches for Setting Interim Significance Thresholds for Greenhouse Gases under the California Environmental Quality Act.* The proposal recommends adhering to interim performance standards for project types and emissions sources including construction, energy, water use, waste, transportation, and total mass GHG emissions (CARB 2008d). Specific thresholds and performance criteria for these categories have yet to be developed.

The Natural Resources Agency (Resources) received recommended Amendments to the CEQA Guidelines for greenhouse gas emissions from the Governor's Office of Planning and Research on April 13, 2009. These proposed CEQA Guideline amendments would provide guidance to public agencies regarding the analysis and mitigation of the effects of greenhouse gas emissions in draft CEQA documents. On July 3, 2009, Resources commenced the Administrative Procedure Act rulemaking process for certifying and adopting these amendments pursuant to Public Resources

Code section 21083.05. The recommended Amendments do not identify significance thresholds for greenhouse gas emissions.

California Air Pollution Control Officers Association (CAPCOA)

In January 2008, the California Air Pollution Control Officers Association (CAPCOA) issued a "white paper" on evaluating and addressing GHGs under CEQA (CAPCOA, 2008). This resource guide was prepared to support local governments as they develop their programs and policies around climate change issues. The paper is not a guidance document. It is not intended to dictate or direct how any agency chooses to address GHG emissions. Rather, it is intended to provide a common platform of information about key elements of CEQA as they pertain to GHG, including an analysis of different approaches to setting significance thresholds.

The paper notes that for a variety of reasons local agencies may decide not to have a CEQA threshold. Local agencies may also decide to assess projects on a case-by-case basis when the projects come forward. The paper also discusses a range of GHG emission thresholds that could be used. The range of thresholds discusses includes a GHG threshold of zero and several non-zero thresholds. Non-zero thresholds include percentage reductions for new projects that would allow the state to meet its goals for GHG emissions reductions by 2020 and perhaps 2050. These would be determined by a comparison of new emissions versus business as usual emissions and the reductions required would be approximately 30 percent to achieve 2020 goals and 90 percent (effectively immediately) to achieve the more aggressive 2050 goals. These goals could be varied to apply differently to new project, by economic sector, or by region in the state.

Other non-zero thresholds are discussed in the paper include:

- 900 metric tons/year CO_2E (a market capture approach);
- 10,000 metric tons/year CO_2E (potential ARB mandatory reporting level with Cap and Trade);
- 25,000 metric tons/year CO_2E (the ARB mandatory reporting level for the statewide emissions inventory);
- 40,000 to 50,000 metric tons/year CO_2E (regulated emissions inventory capture – using percentages equivalent to those used in air districts for criteria air pollutants),
- Projects of statewide importance (9,000 metric tons/year CO_2E for residential, 13,000 metric tons/year CO_2E for office project, and 41,000 metric tons/year CO_2E for retail projects), and
- Unit-based thresholds and efficiency-based thresholds that were not quantified in the report.

SCAQMD Draft GHG Significance Threshold

On December 5, 2008, the SCAQMD Governing Board adopted the staff proposal for an interim GHG significance threshold for projects where the SCAQMD is lead agency. The interim threshold consists of five tiers of standards that could result in a finding of less than significant impact. The tiers include CEQA exemptions, consistency with regional GHG budgets, less than significant screening levels for industrial projects (10,000 metric tons/year CO2e) and

commercial/residential projects (3,000 metric tons/year CO2e), performance standards (i.e., 30 percent less than Business As Usual [BAU]), and carbon offsets (SCAQMD, 2008). The interim threshold amortizes construction emissions over the life of the project (i.e. 30 years).

Regional

Regional Comprehensive Plan and Guide

The Southern California Association of Governments (SCAG) is the regional planning agency for Los Angeles, Orange, Ventura, Riverside, San Bernardino, and Imperial Counties and addresses regional issues relating to transportation, the economy, community development, and the environment. SCAG is the federally designated metropolitan planning organization (MPO) for the majority of the southern California region and is the largest MPO in the nation. As the designated MPO, SCAG is mandated by the federal government to develop and implement regional plans that address transportation, growth management, hazardous waste management, and air quality issues. With respect to air quality planning, SCAG has prepared the Regional Comprehensive Plan and Guide (RCPG) for the Riverside County region, which includes Growth Management and Regional Mobility chapters that form the basis for the land use and transportation components of the Air Quality Management Plan (AQMP) and are utilized in the preparation of air quality forecasts and the consistency analysis that is included in the AQMP.

SCAQMD

The SCAQMD has jurisdiction over an area of approximately 10,743 square miles. This area includes all of Orange County, all of Los Angeles County except for the Antelope Valley, the nondesert portion of western San Bernardino County, and the western and Coachella Valley portions of Riverside County. The previously discussed Basin is a subregion of the SCAQMD jurisdiction. While air quality in this area has improved, the Basin requires continued diligence to meet air quality standards. The SCAQMD has adopted a series of AQMPs to meet the CAAQS and NAAQS. These plans require control technology for existing sources, control programs for area sources and indirect sources, a SCAQMD permitting system designed to allow no net increase in emissions from any new or modified permitted emission sources and transportation control measures.

The SCAQMD adopted a comprehensive AQMP update, the 2007 AQMP for the Basin, on June 1, 2007. The 2007 AQMP outlines the air pollution control measures needed to meet federal health-based standards for ozone (8-hour standard) by 2024, and PM2.5 by 2015. This revision to the AQMP also addresses several State and federal planning requirements and incorporates significant new scientific data, primarily in the form of updated emissions inventories, ambient measurements, new meteorological episodes and new air quality modeling tools. The 2007 AQMP is consistent with and builds upon the approaches taken in the 2003 AQMP for the attainment of the federal ozone air quality standard but highlights the significant amount of reductions needed and the urgent need to identify additional strategies, especially in the area of mobile sources, to meet all federal criteria pollutant standards within the timeframes allowed under FCAA (SCAQMD, 2007).

The SCAQMD adopts rules and regulations to implement portions of the AQMP. Several of these rules may apply to construction or operation of the project. For example, SCAQMD Rule 403 requires the implementation of best available fugitive dust control measures during active operations capable of generating fugitive dust emissions from on-site earth-moving activities, construction/demolition activities, and construction equipment travel on paved and unpaved roads. As another example, SCAQMD Regulation XIII ensures that the operation of new facilities do not interfere with progress in attainment of the NAAQS.

The SCAQMD has published a *CEQA Air Quality Handbook* (SCAQMD, 1993) that is intended to provide local governments such as the City of Perris and the County of Riverside, with guidance for analyzing and mitigating project-specific air quality impacts. This handbook provides standards, methodologies and procedures for conducting air quality analyses. The handbook is currently being revised. Supplemental information that was last updated in March of 2007 by the SCAQMD was used extensively in the preparation of this analysis.

Local Sensitive Receptors

Land uses such as schools, children's daycare centers, hospitals, and convalescent homes are considered to be more sensitive than the general public to poor air quality because the population groups associated with these uses have increased susceptibility to respiratory distress. Persons engaged in strenuous work or exercise also have increased sensitivity to poor air quality.

Residential areas are considered more sensitive to air quality conditions than commercial and industrial areas, because people generally spend longer periods of time at their residences, resulting in greater exposure to ambient air quality conditions. Recreational uses are also considered sensitive, due to the greater exposure to ambient air quality conditions and because the presence of pollution detracts from the recreational experience.

3.2.3 Impacts and Mitigation Measures

Significance Criteria

According to Appendix G of the *CEQA Guidelines*, the project would have a significant effect on air quality if it would:

- Conflict with or obstruct implementation of the applicable air quality plan;
- Violate any air quality standard or contribute substantially to an existing or projected air quality violation;
- Result in a cumulatively considerable net increase of any nonattainment pollutant (including releasing emissions that exceed quantitative thresholds for ozone precursors;
- Conflict with or obstruct implementation of California Global Warming Solutions Act of 2006 (AB 32);
- Expose sensitive receptors to substantial pollutant concentrations; or
- Create objectionable odors affecting a substantial number of people.

Because of the SCAQMD's regulatory role in the Basin, the significance thresholds and analysis methodologies in the SCAQMD's *CEQA Air Quality Handbook* are used in evaluating project impacts.

Construction. The project would result in a significant construction air quality impact if regional emissions from the project exceed the significance thresholds set forth in **Table 3.2-5**.

- Regional emissions exceed the significance thresholds set forth in Table 3.2-5.

TABLE 3.2-5
AIR QUALITY SIGNIFICANCE THRESHOLDS

Pollutant	Construction	Operation
NOx	100 lbs/day	55 lbs/day
VOC (ROG)	75 lbs/day	55 lbs/day
PM10	150 lbs/day	150 lbs/day
PM2.5	55 lbs/day	55 lbs/day
CO	550 lbs/day	550 lbs/day

SOURCE: SCAQMD, 1993. *CEQA Air Quality Handbook*. April 1993.

Operations. The project would result in a significant operational air quality impact if any of the following occur:

- Either of the following conditions would occur at an intersection or roadway within one-quarter mile of a sensitive receptor:
  - The project causes an exceedance of the California one-hour or eight-hour CO standards of 20 or 9.0 ppm, respectively; or
  - For intersection or roadways where existing CO levels exceed California standards, the incremental increase due to the project is equal to or greater than 1.0 ppm for the one-hour CO standard, or 0.45 ppm for the eight-hour CO standard.
- The project would not be compatible with SCAQMD, SCAG, County of Riverside and/or City of Perris air quality goals and policies.

Toxic Air Contaminants. The project would result in a significant operational air quality impact if any of the following occur:

- On-site stationary sources emit carcinogenic or toxic air contaminants that individually or cumulatively exceed the maximum individual cancer risk of ten in one million or an acute or chronic hazard index of 1.0. (SCAQMD, 2005a).
- Hazardous materials associated with on-site stationary sources result in an accidental release of air toxic emissions or acutely hazardous materials posing a threat to public health and safety.

Construction Impacts

Daily regional emissions during construction were forecast by assuming a conservative estimate of construction (i.e., assuming all construction occurs at the earliest feasible date and that all

project components would be constructed concurrently) and applying the mobile-source and fugitive dust emissions factors derived from air quality emissions model URBEMIS 2007 version 9.2. The URBEMIS 2007 output sheets, which detail construction equipment assumptions by phase and construction phase durations, are provided in Appendix B of this document.

Operational Impacts

Toxic Air Contaminant Impacts

Potential TAC impacts are evaluated by conducting a screening-level analysis followed by a more detailed analysis (i.e., dispersion modeling). The screening-level analysis consists of reviewing the project's site plan and project description to identify any new or modified TAC emissions sources. If it is determined that the project would introduce a new source, or modify an existing TAC emissions source, then downwind sensitive receptor locations are identified and site-specific dispersion modeling is conducted to determine project impacts.

Operational Criteria Pollutants

Operational emissions of criteria pollutants are not expected to increase from pre-drawn levels. As with current operations, there would be minimal vehicle trips required daily for routine operations (i.e., inspection and maintenance) resulting in a less than significant increase in air quality emissions.

Consistency with Applicable Air Quality Plan

The SCAQMD has designated two key indicators of consistency with air quality policies. The first criterion requires that the project not result in an increase in the frequency or severity of existing air quality violations, cause or contribute to new violations, or delay the timely attainment of air quality standards or the interim emission reductions specified in the AQMP. The second criterion requires that the project not exceed the growth assumptions made in preparing the AQMP.

With respect to the first criterion, SCAQMD methodologies require that an air quality analysis include forecasts of project emissions in a regional context during construction and operation. As described below in Impact 3.2-1, the project would result in ROG and NOx (which are ozone precursors) and PM2.5 emissions that would exceed the SCAQMD significance thresholds during the short-term duration of construction. Although the temporary emissions would contribute to air pollution in the basin, the construction activities would not result in measurably more frequent or more severe air quality violations. The AQMP identifies construction activities as contributing factors to the overall emissions sources and provides source control measures to reduce this contribution, but does not conclude that individual projects would delay the attainment of air quality standards for the basin. Compliance with the Rules established by the SCAQMD to reduce construction emissions including fugitive dust control measures and vehicle maintenance measures would ensure that the project would not conflict with the current AQMP.

The second consistency criterion requires that the project does not exceed the assumptions in the AQMP. A project is consistent with the AQMP if it is consistent with the population, housing and employment assumptions which were used in the development of the AQMP. The 2007 AQMP,

the most recent AQMP adopted by the SCAQMD, incorporates, in part, SCAG's 2004 Regional Transportation Plan (RTP) socioeconomic forecast projections of regional population and employment growth. The 2004 RTP is based on growth assumptions through 2030 developed by each of the cities and counties in the SCAG region. The project is consistent with growth assumptions included in the AQMP because it is only making a dam safer for the community that presently is in the vicinity, thus the project would not result in a regionally significant impact per SCAG Intergovernmental Review Criteria and *CEQA Guidelines* Section 15206. In addition, the project is consistent with the City General Plan, which is consistent with the RTP. As such, the project would be consistent with local air quality plans.

Conformance with Air Quality Standards

Impact 3.2-1: Construction activities would emit criteria pollutants in excess of SCAQMD thresholds of significance that would contribute to existing poor air quality.

Criteria Air Pollutants

Construction-related emissions would be short-term, but may still cause adverse effects on air quality. Construction activities include site preparation, earthmoving, and general construction. Site preparation includes activities such as general land clearing and grubbing. Earthmoving activities include cut-and-fill operations, trenching, blasting, soil compaction, and grading. General construction includes adding improvements such as roadway surfaces, structures, and facilities. The emissions generated from these construction activities include:

- Dust (including PM10 and PM2.5) primarily from "fugitive" sources (i.e., emissions released through means other than through a stack or tailpipe) such as soil disturbance;
- Combustion emissions of criteria air pollutants (ROG, NOx, carbon monoxide, carbon dioxide, PM10, and PM2.5) primarily from operation of heavy off-road construction equipment (primarily diesel-operated), portable auxiliary equipment, and construction worker automobile trips (primarily gasoline-operated); and
- Evaporative emissions (ROG) from asphalt paving and architectural coatings.

Construction-related fugitive dust emissions would vary from day to day, depending on the level and type of activity, silt content of the soil, and the weather. High winds (greater than 10 miles per hour [mph]) occur infrequently in the area, less than two percent of the time.[2] In the absence of mitigation, construction activities may result in significant quantities of dust, and as a result, local visibility and PM10 concentrations may be adversely affected on a temporary and intermittent basis during construction. In addition, the fugitive dust generated by construction would include not only PM10, but also larger particles, which would fall out of the atmosphere within several hundred feet of the site and could result in nuisance-type impacts. It is mandatory for all construction projects in the Basin to comply with SCAQMD Rule 403 for fugitive dust (SCAQMD, 2005b). Specific Rule 403 control requirements include, but are not limited to, applying water in sufficient quantities to prevent the generation of visible dust plumes, applying soil binders to uncovered areas, reestablishing ground cover as quickly as possible, utilizing a wheel washing system to remove bulk material from tires and vehicle undercarriages before

2 South Coast Air Quality Management District, Perris Monitoring Station, 1991-1999

vehicles exit the project site, and maintaining effective cover over exposed areas. Compliance with Rule 403 would reduce PM10 and PM2.5 fugitive dust emissions associated with construction activities by 61 percent. Visual dust plumes from blasting are not anticipated and therefore blasting would not require any additional fugitive dust mitigation.

NOx, ROG, PM10, PM2.5, CO, and CO_2 construction emissions were estimated for a worst-case day based on maximum crew, truck trip, and equipment usage data from DWR. Emissions are based on criteria pollutant emission factors from URBEMIS 2007. As shown in **Table 3.2-6**, the estimated maximum daily NOx, PM10, and PM2.5 emissions without mitigation would be greater than the significance criteria. Thus, construction-related NOx, PM10, and PM2.5 emissions would be significant without mitigation.

TABLE 3.2-6
ESTIMATED WORST CASE DAY UNMITIGATED EMISSIONS FROM PROJECT CONSTRUCTION (POUNDS PER DAY)A

Project Data	ROG	NOx	CO	PM10[b]	PM2.5[b]	CO_2
Dam Remediation						
20011 Totals	10	99	46	205	46	12,985
20012 Totals	5	30	68	201	43	10,339
2013 Totals	5	23	63	2	1	10,339
Significant (Yes or No)?	No	No	No	Yes	No	NA
Emergency Outlet Extension						
2011 Totals	6	44	226	398	85	4,581
2012 Totals	8	41	127	398	85	19,513
2013 Totals	7	37	118	3	2	19,512
Significant (Yes or No)?	No	No	No	Yes	Yes	NA
Outlet Tower Retrofit						
2011 Totals	3	24	13	1	1	2,412
2012 Totals	2	15	9	1	1	1,839
Significant (Yes or No)?	No	No	No	No	No	NA
Combined Total for Project						
2011 Total	19	167	285	604	132	19,978
2012 Total	15	86	204	600	129	31,691
2013 Total	12	60	181	5	3	29,851
Significant (Yes or No)?	No	Yes	No	Yes	Yes	NA
SCAQMD Thresholds of Significance	75	100	550	150	55	NA

[a] Project construction emissions estimates for off-road equipment were made using URBEMIS2007, version 9.2. The emissions listed above are for a worse-case day, where it was assumed that all components of the project would overlap See Appendix B for more details.

[b] PM10 and PM2.5 emission estimates are based on compliance with SCAQMD Rule 403 requirements for fugitive dust suppression, which require that no visible dust be present beyond the site boundaries and achieves 61 percent or greater reduction in dust. A copy of SCAQMD Rule 403 is included in Appendix B.

NOTE: Values in **bold** are in excess of the applicable SCAQMD significance threshold. NA = Not Available

SOURCE**:** ESA, 2009

Toxic Air Contaminants

The greatest potential for TAC emissions would be related to diesel particulate emissions associated with heavy equipment operations during grading and excavation activities. According to SCAQMD methodology, health effects from carcinogenic air toxics are usually described in terms of individual cancer risk. "Individual Cancer Risk" is the likelihood that a person exposed to concentrations of TACs over a 70-year lifetime will contract cancer, based on the use of standard risk-assessment methodology.

Projects, such as this project, that would have minimal TAC emissions do not require a Health Risk Assessment (HRA) to determine the individual cancer risk. Also, construction emissions generally do not require an HRA because construction is typically limited to a short period of time and the HRA considers individual cancer risk over the long-term. However, because the construction period for project components would last from three to four years and include diesel-powered construction equipment, an HRA was conducted to determine if the project construction would exceed the significance criteria for TACs related to an increase in individual cancer risk. A summary of the HRA is provided in this Air Quality Section, a longer description of the HRA is provided in **Appendix B** of this EIR.

The SCAQMD has established the CEQA significance threshold for individuals exposed to new TAC sources as the increased incremental cancer risk of 10 in one million or greater. The HRA analyzed the potential incremental cancer risks to residents in the project vicinity of the Perris Dam Remediation Program during construction activities. The primary TAC from construction is DPM. Four construction activities were identifies as potential sources of DPM. These activities include: (1) dam remediation, (2) construction of the replacement outlet tower, (3) construction of the emergency outlet extension, and (4) haul trips to export soil excavated during construction for all three components. Emission rates for the four activities were estimated using the URBEMIS 2007 model, which incorporates emission factors from CARB's OFFROAD and EMFAC2007 models. Emissions were input into the USEPA approved dispersion model AERMOD to calculate ambient air concentrations at receptors in the project vicinity.

The results of the HRA found that project construction would have a less-than-significant impact from DPM emissions at all sensitive receptors. The maximum exposed receptor would have an estimated increased incremental cancer risk of 3 in one million, which is less than one-third of the SCAQMD significance threshold of 10 in one million. The proposed project would not emit TACs which would exceed SCAQMD significance threshold. TAC impacts related to the violation of an air quality standard would be less than significant.

The project would include removing piping downstream of the dam that may be asbestos-containing. If handled improperly the asbestos-containing piping could become friable, exposing workers to asbestos fibers. The mitigation measure provided below would ensure that the materials would be handled and disposed of in compliance with applicable regulations. As such, project-related toxic emission impacts during construction would be less than significant.

Mitigation Measures

Mitigation Measure 3.2-1a: DWR shall ensure that contractors implement a fugitive dust control program pursuant to the provisions of SCAQMD Rule 403.[3]

Mitigation Measure 3.2-1b: DWR shall ensure that construction equipment is properly tuned and maintained in accordance with manufacturer's specifications.

Mitigation Measure 3.2-1c: DWR shall ensure that contractors maintain and operate construction equipment so as to minimize exhaust emissions. During construction, trucks and vehicles in loading and unloading queues would turn their engines off when not in use to reduce vehicle emissions. Construction emissions shall be phased and scheduled to avoid emissions peaks and discontinued during second-stage smog alerts.

Mitigation Measure 3.2-1d: Electricity from power poles rather than temporary diesel- or gasoline-powered generators shall be used where available.

Mitigation Measure 3.2-1e: All construction vehicles shall be prohibited from idling in excess of five minutes, both on- and off-site.

Mitigation Measure 3.2-1f: Coatings and solvents used in the proposed project shall be consistent with applicable SCAQMD rules and regulations**.**

Mitigation Measure 3.2-1g: Wheel washers shall be installed where vehicles exit the construction site onto paved roads.

Mitigation Measure 3.2-1h: Haul vehicles shall be covered or comply with the vehicle freeboard requirements of Section 23114 of the California Vehicle Code for both public and private roads.

Mitigation Measure 3.2-1i: Prior to removing the existing drainage system down-stream of the dam, DWR shall inventory materials that may be asbestos-containing. Any asbestos-containing materials including cement pipe (transite) will be removed and disposed of by certified asbestos workers in compliance with applicable asbestos abatement regulations (40 CFR Part 763 and 29 CFR Part 1910).

Significance after Mitigation: Even with implementation of the mitigation measures listed above, and the fact that recreational uses would be reduced during construction, short-term construction-related emissions of NOx, PM10 and PM2.5 would be significant and unavoidable impacts on air quality.

Impact 3.2-2: Project operation would not violate air quality standards or contribute substantially to an existing or projected air quality violation nor expose sensitive receptors to pollutant concentrations resulting in an adverse health effect during long-term operation.

Operational emissions for the project would be generated primarily from on-road vehicular traffic. Minimal employee trips would be required daily for routine operations (i.e., inspection and maintenance) and these minimal trips would be approximately the same as the amount of

[3] SCAQMD Rule 403 requirements are detailed in Appendix B.

trips and emissions as pre-drawdown levels, resulting in a less than significant increase in air quality emissions.

Significance: Less than Significant.

Odors

Impact 3.2-3: The project would not create objectionable odors affecting a substantial amount of people.

According to the SCAQMD *CEQA Air Quality Handbook*, land uses associated with odor complaints typically include agricultural uses, wastewater treatment plants, food processing plants, chemical plants, composting, refineries, landfills, dairies, and fiberglass molding. SCAQMD Rule 402 prohibits such emissions. The project does not include any uses identified by the SCAQMD as being associated with odors. Odors associated with the construction project would be limited to vehicle exhaust from heavy machinery. Any mobile or stationary source generating an objectionable odor is subject to Rule 402 and may be reported to the SCAQMD. The SCAQMD resolves complaints through investigation and issuance of a notice to comply when necessary. Continued application of these existing regulations would avoid any impacts associated with objectionable odors and assure that any objectionable odors would not affect a substantial amount of people. Thus potential odor impacts would be less than significant.

Significance: Less than Significant.

Greenhouse Gases

Impact 3.2-4: The project would not result in a cumulatively considerable net increase of emissions which exceed quantitative thresholds for ozone precursors and/or conflict with implementation of state goals for reducing greenhouse gas emissions.

CEQA requires that lead agencies consider the reasonably foreseeable adverse environmental effects of projects they are considering for approval. GHGs have the potential to adversely affect the environment because such emissions contribute, on a cumulative basis, to global climate change. In turn, global climate change has the potential to result in rising sea levels, which can inundate low-lying areas; to reduce snowpack, leading to less overall water storage in the Sierra Nevada; to affect rainfall, leading to changes in water supply, increased frequency and severity of droughts, and increased wildfire risk; and to affect habitat and agricultural land, leading to adverse affects on biological and agricultural resources.

Cumulative impacts are the collective impacts of one or more past, present, and future projects that, when combined, result in adverse changes to the environment. When the adverse change is substantial and the project's contribution to the impact is considerable, the cumulative impact would be significant. The cumulative project list for this issue (global climate change) comprises anthropogenic (i.e., human-made) GHG emission sources across the entire planet. No project

alone, is likely to contribute to a noticeable incremental change to the global climate. However, legislation and executive orders on the subject of climate change in California have established a statewide context for GHG emissions, and an enforceable statewide cap on GHG emissions. Given the nature of environmental consequences from GHGs and global climate change, CEQA requires that the cumulative impacts of GHGs, even additions that are relatively small on a global basis, need to be considered. Because of the cumulative nature of the climate change problem, even relatively small contributions may be potentially considerable and therefore, significant.

To establish additional context in which to consider the order of magnitude of project-generated construction GHG emissions, facilities (i.e., stationary, continuous sources of GHG emissions) that generate greater than 25,000 metric tons of CO_2e per year are mandated to report their GHG emissions to CARB pursuant to AB 32. In addition, CARB has released a preliminary draft staff proposal that recommends 7,000 metric tons of CO_2e per year be used as the baseline threshold for impacts. Estimated GHG emissions associated with construction of the entire project would be approximately 2,800 metric tons of CO_2 in the maximum year.[4] Absent any air quality regulatory agency-adopted threshold for GHG emissions, the proposed project would generate substantially fewer emissions than 25,000 or 7,000 metric tons of CO_2e per year.

Long term emission including electrical sources would not change from the pre-drawdown conditions. Therefore quantifications of GHG emissions related to electricity from project implementation were not evaluated. Short-term construction-related GHG emissions would cease after construction.

To further contextualize the construction emissions generated by the project, the following information and comparisons are provided:

A. The potential conflicts with the CARB's thirty-nine recommended actions in the Climate Change Scoping Plan (see Table 3.2-4);

B. The relative size of the project in comparison to the size of major facilities that are required to report greenhouse gas emissions (25,000 metric tons of CO_2e/yr), and the CARB's 7,000 metric tons of CO_2e/yr recommended baseline; and

C. The basic parameters of a project to determine whether its design is inherently energy efficient, will lead to wasteful energy use, or is neutral with regard to future energy use.

With regard to Item A, the project does not pose any apparent conflict with the most recent list of the CARB action strategies.

With regard to Item B, project construction greenhouse gas emissions would be approximately 2,800 metric tons of CO_2e/yr in the maximum year; as computed by URBEMIS2007. Project operations would be the same as operations under the pre-drawdown baseline level and there

[4] Construction emissions were modeled with the URBEMIS 2007 computer model. The URBEMIS 2007 model does not account for embedded CO2 emissions associated with the manufacture of construction equipment or production of concrete or other building materials used in project construction. URBEMIS does not estimate greenhouse gas emissions other than CO2, such as methane and nitrous oxide, as these levels are expected to be nominal in comparison to the estimated CO2 levels despite their higher global warming potential. See Appendix B for more details.

would be no increase in CO_2 emissions would be expected. The project would not be classified as a major source of greenhouse gas emissions (the lower reporting limit for major sources is 25,000 metric tons of CO_2e/yr).

Project construction greenhouse gas emissions for the whole project would total approximately 5,013 metric tons of CO_2e, to emphasize these low emissions, we can compare them as if they were emissions from one year which would be 22 percent of the 25,000 lower reporting limit, and 70 percent of the 7,000 recommended baseline. If the construction greenhouse gas emissions were amortized for a conservative 50 year dam lifetime, construction would account for 100 metric tons of CO_2e/yr.

With regard to Item C, the project is efficient with regard to energy use. The construction would use on-site materials to minimize transport of materials to the site and best management practices (BMP) including mitigation measures 3.2-1a and 3.2-1i. Furthermore the project is needed to reduce potential earthquake hazards to benefit the safety of nearby residents, recreational users, and people in the surrounding commercial areas.

Significance Less than Significant

Mitigation Measure Summary Table

Table 3.2-7 presents the impacts and mitigation summary for Air Quality.

TABLE 3.2-7
AIR QUALITY IMPACTS AND MITIGATION SUMMARY

Proposed Project Impact	Mitigation Measure	Significance after Mitigation
Construction Emissions: Construction activities would emit criteria pollutants in excess of SCAQMD thresholds of significance that would contribute to existing poor air quality.	3.2-1a through 3.2-1i	Significant and Unavoidable
Operational Emissions: Project operation would not violate air quality standards or contribute substantially to an existing or projected air quality violation nor expose sensitive receptors to pollutant concentrations resulting in an adverse health effect during long-term operation.	None required	--
Objectionable Odors: The project would not create objectionable odors affecting a substantial amount of people.	None required	--
Greenhouse Gas Emissions: The project would not conflict with implementation of state goals for reducing greenhouse gas emissions and thereby have a negative effect on Global Climate Change.	None required	--